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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,571	02/27/2004	Chien-Hsueh Shih	67,200-1228	9129
7590 05/19/2006		EXAMINER		
TUNG & ASSOCIATES		WONG, EDNA		
838 W. Long Lake Road, Suite 120		ART UNIT		
Bloomfield Hills, MI 48302		PAPER NUMBER		

1753

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/788,571

Applicant(s)

SHIH ET AL.

Examiner

Edna Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-11,13-15,17,18 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-11,13-15,17,18 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

This is in response to the Amendment dated March 30, 2006. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Arguments

Specification

The disclosure has been objected to because of minor informalities.

The objection of the disclosure has been withdrawn in view of Applicants' amendment.

Claim Objections

Claims 2, 4, 6, 8, 10, 14 and 18 have been objected to because of minor informalities.

With regards to claims 2, 4, 6 and 8, the objection has been withdrawn in view of Applicants' amendment.

With regards to claims 10, 14 and 18, the objection has been ***maintained*** for the following reasons:

Claim 10

line 4, the word "pyrollidone" should be amended to the word -- pyrrolidone --.

Claim 14

line 3, the word "pyrollidone" should be amended to the word -- pyrrolidone --.

Claim 18

line 3, the word "pyrollidone" should be amended to the word -- pyrrolidone --.

Claim Rejections - 35 USC § 102

I. Claims **1 and 3** have been rejected under 35 U.S.C. 102(b) as being anticipated by **Naarmann et al.** (US Patent No. 4,468,291).

The rejection of claims 1 and 3 under 35 U.S.C. 102(b) as being anticipated by Naarmann et al. has been withdrawn in view of Applicants' amendment.

II. Claims **9 and 11** have been rejected under 35 U.S.C. 102(b) as being anticipated by **Naarmann et al.** (US Patent No. 4,468,291).

The rejection of claims 9 and 11 under 35 U.S.C. 102(b) as being anticipated by Naarmann et al. has been withdrawn in view of Applicants' amendment.

Claim Rejections - 35 USC § 103

I. Claims **2 and 4** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Naarmann et al.** (US Patent No. 4,468,291) as applied to claims 1 and 3 above, and further in view of **Hamnett et al.** (US Patent No. 5,527,434).

The rejection of claims 2 and 4 under 35 U.S.C. 103(a) as being unpatentable over Naarmann et al. as applied to claims 1 and 3 above, and further in view of Hamnett et al. has been withdrawn in view of Applicants' amendment.

II. Claim 10 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Naarmann et al. (US Patent No. 4,468,291) as applied to claims 9 and 11 above, and further in view of Hamnett et al. (US Patent No. 5,527,434).

The rejection of claim 10 under 35 U.S.C. 103(a) as being unpatentable over Naarmann et al. as applied to claims 9 and 11 above, and further in view of Hamnett et al. has been withdrawn in view of Applicants' amendment.

III. Claims 1-4 have been rejected under 35 U.S.C. 103(a) as being unpatentable over JP 60-17092 ('092).

The rejection of claims 1-4 under 35 U.S.C. 103(a) as being unpatentable over JP 60-17092 ('092) has been withdrawn in view of Applicants' amendment.

IV. Claims 9-11 and 13-15 have been rejected under 35 U.S.C. 103(a) as being unpatentable over JP 60-17092 ('092).

The rejection of claims 9-11 and 13-15 under 35 U.S.C. 103(a) as being unpatentable over JP 60-17092 ('092) has been withdrawn in view of Applicants' amendment.

V. Claims **17-18 and 20** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **JP 60-17092 ('092)**.

The rejection of claims 17-18 and 20 under 35 U.S.C. 103(a) as being unpatentable over JP 60-17092 ('092) has been withdrawn in view of Applicants' amendment.

Response to Amendment

Claim Rejections - 35 USC § 112

Claims **1-4, 6-11, 13-15, 17-18 and 20** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1

line 9, "said aromatic monomer" lacks antecedent basis. See also claim 2, line 2; and claim 4, line 2.

line 10, "said aromatic amine monomer" lacks antecedent basis. See also claim 3, line 2.

Claim 2

line 3, it appears that "a functional group" is the same as the aromatic functional group recited in claim 1, lines 7-8. However, it is unclear if it is.

Claim 3

line 3, it appears that “a functional group” is the same as the aromatic amine functional group recited in claim 1, line 10. However, it is unclear if it is.

Claim 4

line 3, it appears that “a functional group” is the same as the aromatic functional group recited in claim 1, lines 7-8. However, it is unclear if it is.

Claim 9

line 9, “said aromatic monomer” lacks antecedent basis. See also claim 10, line 2; and claim 14, line 2.

line 10, “said amine monomer” lacks antecedent basis.

Claim 10

lines 2-3, it appears that “a functional group” is the same as the aromatic functional group recited in claim 9, lines 7-8. However, it is unclear if it is.

Claim 11

line 2, “said aromatic amine monomer” lacks antecedent basis.

line 3, it appears that "a functional group" is the same as the aromatic amine functional group recited in claim 9, line 8. However, it is unclear if it is.

Claim 14

lines 2-3, it appears that "a functional group" is the same as the aromatic functional group recited in claim 9, lines 7-8. However, it is unclear if it is.

Claim 15

line 2, "said aromatic amine monomer" lacks antecedent basis.

lines 2-3, it appears that "a functional group" is the same as the aromatic amine functional group recited in claim 9, line 8. However, it is unclear if it is.

Claim 17

line 9, "said aromatic monomer" lacks antecedent basis. See also claim 18, lines 1-2.

line 10, "said amine monomer" lacks antecedent basis.

Claim 18

line 2, it appears that "a functional group" is the same as the aromatic functional

group recited in claim 17, lines 7-8. However, it is unclear if it is.

lines 3-4, "said aromatic amine monomer" lacks antecedent basis.

line 4, it appears that "a functional group" is the same as the aromatic amine functional group recited in claim 9, line 8. However, it is unclear if it is.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

Claims **1-4 and 6-8** define over the prior art of record because the prior art does not teach or suggest an electrochemical plating electrolyte solution comprising an electrolyte bath solution; and a polymer additive provided in said electrolyte bath solution, said polymer additive comprising polymers having a chemical formula of $\text{CH}_3(\text{CH}_2\text{CHX})_m(\text{CH}_2\text{CHYCH}_2)_n\text{CH}_3$, where X is an aromatic functional group; Y is an aromatic amine functional group; and m and n are integers indicating numbers of said aromatic monomer and said aromatic amine monomer, respectively, in said each of said polymers.

Claim **9-11 and 13-15** defines over the prior art of record because the prior art does not teach or suggest an electrochemical plating electrolyte solution, comprising an electrochemical plating electrolyte solution comprising an electrolyte bath solution; a

polymer additive provided in said electrolyte bath solution, said polymer additive comprising polymers having a chemical formula of $\text{CH}_3(\text{CH}_2\text{CHX})_m(\text{CH}_2\text{CHYCH}_2)_n\text{CH}_3$, where X is an aromatic functional group; Y is an aromatic amine functional group; and m and n are integers indicating numbers of said aromatic monomer and said aromatic amine monomer, respectively, in said each of said polymers; and a cationic charge density of from about 1 meq/g to about 6 meq/g.

Claims 17-18 and 20 defines over the prior art of record because the prior art does not teach or suggest a method of electroplating a metal on an electroplating surface, comprising the steps of: providing, mixing, immersing and electroplating as presently claimed, esp., the step of mixing a polymer additive with said electrolyte bath solution, said polymer additive comprising polymers having a chemical formula of $\text{CH}_3(\text{CH}_2\text{CHX})_m(\text{CH}_2\text{CHYCH}_2)_n\text{CH}_3$, where X is an aromatic functional group; Y is an aromatic amine functional group; and m and n are integers indicating numbers of said aromatic monomer and said aromatic amine monomer, respectively, in said each of said polymers.

The prior art does not contain any language that teaches or suggests the above. Therefore, a person skilled in the art would not have been motivated to adopt the above conditions, and a prima facie case of obviousness cannot be established.

Claims 10, 14 and 18 would be allowable if rewritten or amended to overcome the claim objection(s) set forth in this Office action.

Claims 1-4, 6-11, 13-15, 17-18 and 20 would be allowable if rewritten or

amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

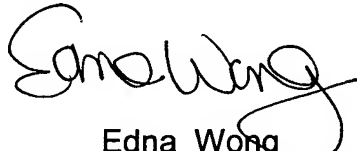
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number

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for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Edna Wong
Primary Examiner
Art Unit 1753

EW
May 15, 2006